

F. P. STONE.

SLIDING DOOR FOR CARRIAGES.

No. 298,794.

Patented May 20, 1884.

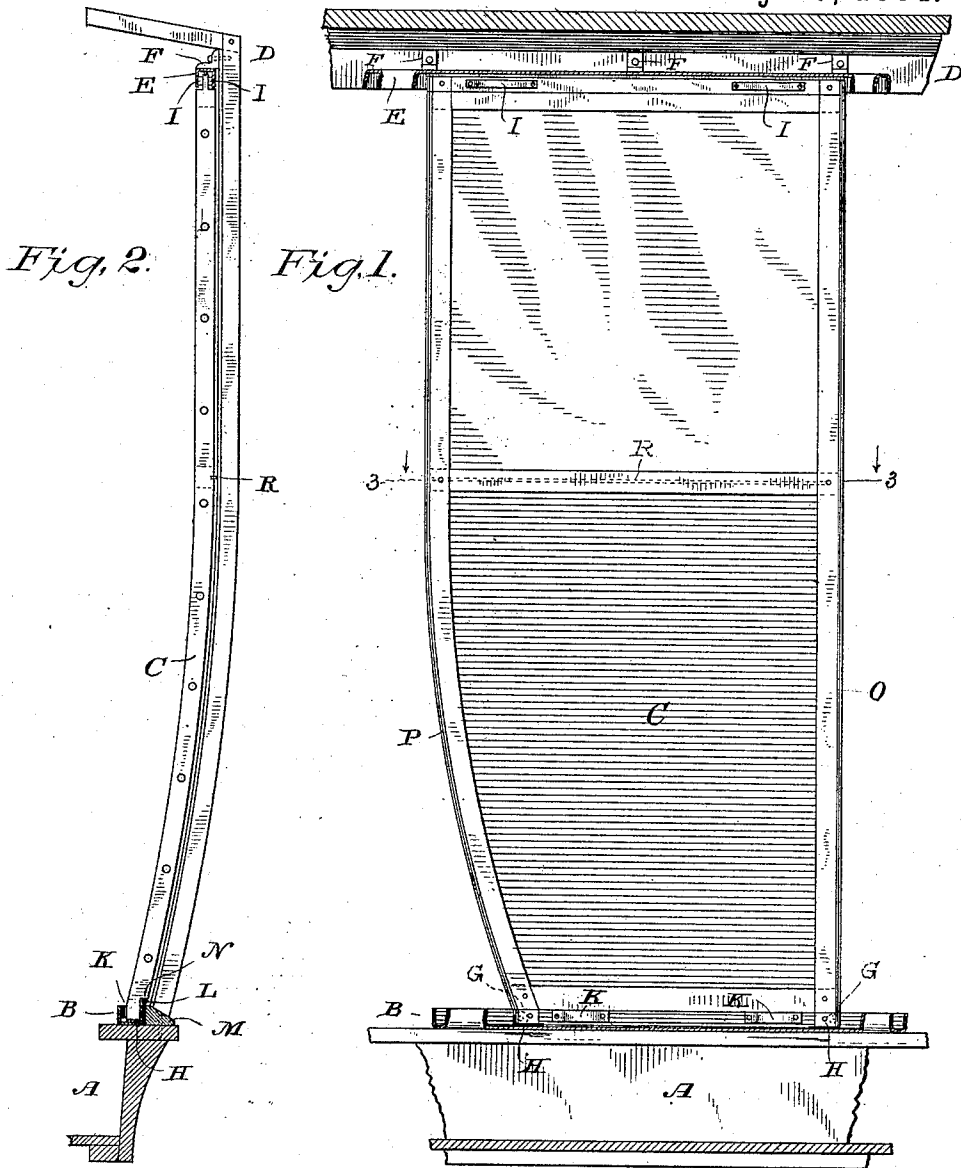
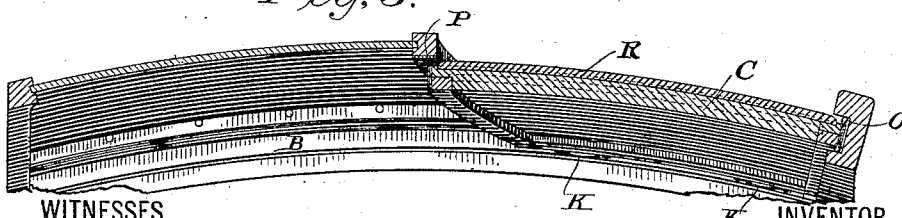


Fig. 2.

Fig. 1.

Fig. 3.



WITNESSES.

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Fig. 4.

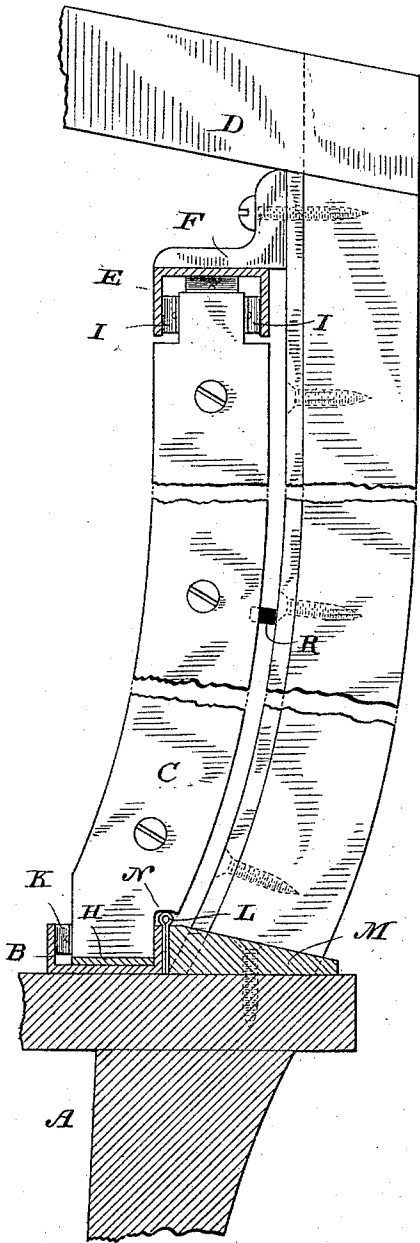


Fig. 5.

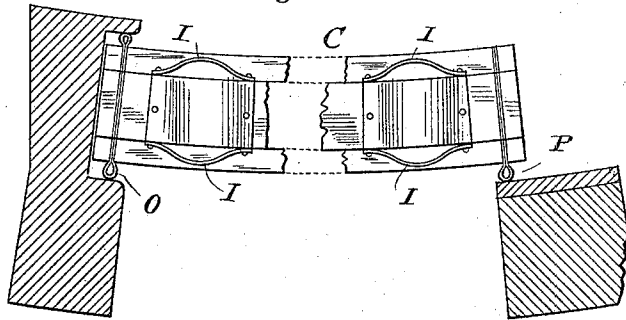


Fig. 6.

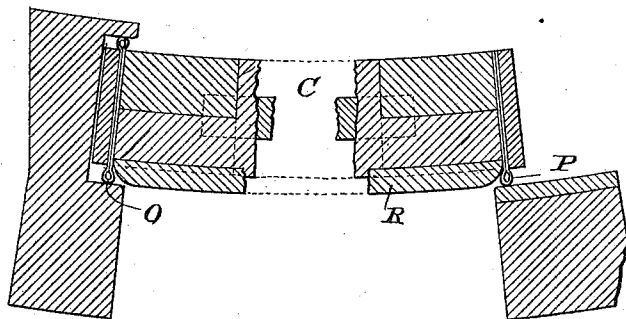
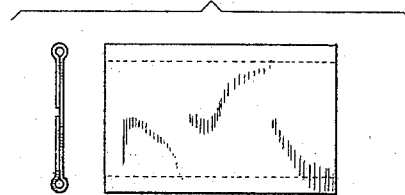


Fig. 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

FRANK P. STONE, OF CHICAGO, ILLINOIS.

SLIDING DOOR FOR CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 298,794, dated May 20, 1884.

Application filed March 6, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRANK P. STONE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Carriage-Tops, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to improve that class of carriage tops which have sliding doors instead of hinged swinging doors, and to provide means whereby a curved door conforming to the curved contour of the sides of the carriage-top may be slid back and forth to open and close the door-opening conveniently and without injurious wear. I also provide against the rattling of the door-frame in its bearings, and against the admission of air or water, in case of cold or storm, when the sliding doors of a carriage are properly closed.

As is well known, carriages with sliding doors, if properly built, are preferable, because they can be made with shorter bodies and with lighter frame-work for the tops, and the swinging of doors against the wheels is avoided.

In the accompanying drawings, Figure 1 is a section of a carriage-top, showing an interior view of one of my sliding doors. Fig. 2 shows an edge view of the sliding door. Fig. 3 is a horizontal section showing the door closed on line 3 3 of Fig. 1. Figs. 4 to 7, inclusive, are drawn on a larger scale, Fig. 4 showing an edge view of the door when open, and Figs. 5, 6, and 7 showing certain details of construction, explained further on.

Referring to the letters on the drawings, A indicates a portion of the lower part of a carriage-top, on which is a curved track, B, for the bottom part of the curved sliding door C.

D indicates a portion of a top of a carriage-cover provided with a way or track, E, for the top portion of the sliding door. It will be observed that the door curves both horizontally and vertically, to conform to the preferred contour of carriage-bodies in general use. The upper and lower tracks or ways for the upper and lower edges of the sliding doors consist of metallic troughs, as well shown in Fig. 4, the upper one being inverted, and secured by brackets F, or otherwise properly, to the carriage-cover. I may provide either anti-friction rollers, as at G, or bearing-plates, as at H, upon the edges of the sliding

door, to run in the bottoms of the metallic troughs or ways.

I indicates spring-plates attached to the opposite sides of the upper edge of the sliding door which is within the upper trough or way. These prevent rattling of the door, and serve as sliding bearings to keep the door in its proper place.

K indicates a similar spring placed upon the inside of the lower edge of the sliding door within the lower trough, tending to press it outward.

L is a rubber packing or water-strip placed upon the inner edge of the outwardly-inclined sill M. A recess, N, in the bottom part of the door, on its outer side, creates a shoulder, which projects over the rubber water-strip, so that water from a hose or a driving rain-storm will be shed off by means of this overhanging projection, and by means of the water-strip and inclined sill, perfectly from the bottom part of the door. The front and rear vertical edges of the door are provided with rubber packings or rubber strips O and P, which bear in the door-jamb or frame-work of the carriage-top, as well illustrated in Figs. 5 and 6, so as to keep out both wind and water, as will be well understood by reference to the drawings. (See also Fig. 3.)

Fig. 7 illustrates a section, and also a side elevation, of one of these rubber strips detached. Water is prevented from egress over the top of the door by the overhanging sides of the trough or way; and should any water enter into the lower trough it will not run into the carriage-bottom, but will drop out through an opening, which may be provided for the purpose.

From the foregoing description it will be perceived that I provide effectively, by simple and durable means, for closing a carriage tightly in stormy weather, or when it is desired to wash it down with a hose, so that water will not get inside, and also in extremely cold weather, so that cold blasts of air will not enter where they can come in immediate contact with the inmates of the carriage. I also secure the door in its proper position constantly, and furnish it with proper bearings, so that it will slide back and forth in its place freely, and without rubbing and wearing on its face, and always be tight when fully closed. The means

I employ are simple and inexpensive, and accessible, and easily repaired or replaced, and entirely effective for the objects in view.

When desirable, I employ ebony strips or guards R on the outer face of the door, so that should any wear occur it will not show, as the wood is black all the way through.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, with a sliding door and cover of a carriage, of troughs or ways, substantially as set forth, and rubber strips that bear against the jambs and the inner sides of the troughs, whereby the joints are made tight when the door is closed, substantially as set forth.

2. The combination, with a sliding door of a carriage and carriage-cover, of the troughs or ways, and the rubber strips that bear within the troughs, and the anti-rattling spring-

bearings, substantially as and for the purpose set forth.

3. The combination, with a sliding door and body of a carriage, of the troughs or ways, the spring-bearings, the inclined sill, the rubber strip arranged in the sill, and the recess in the door in which the rubber strip is seated, substantially as set forth.

4. The combination, with a sliding door and body of a carriage, of the troughs or ways, the rubber strips, the spring-bearings, and the ebony strip that extends across the door at about its middle, substantially as set forth.

In testimony whereof I have hereunto subscribed my name this 3d day of March, A. D. 1884.

FRANK P. STONE.

Witnesses:

S. RUSH HARRIS,
MARCUS E. HOPKINS.